

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION See paragraph 2 below

International application No.
PCT/US2006/001286

International filing date (day/month/year)
11.01.2006

Priority date (day/month/year)
11.01.2005

International Patent Classification (IPC) or both national classification and IPC
INV. G01S1/02 G01S1/68 G01S5/14 H04Q7/38 H04B17/02

Applicant
QUALCOMM INCORPORATED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of
this opinion

see form
PCT/ISA/210

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	13, 15, 16, 24, 26, 27, 37
	No: Claims	1-12, 14, 17-23, 25, 28-36, 38, 39
Inventive step (IS)	Yes: Claims	
	No: Claims	1-39
Industrial applicability (IA)	Yes: Claims	1-39
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Items V, VII and VIII

1 Documents

The following document is referred to in this communication; the numbering will be adhered to in the rest of the procedure:

D1: US-B1-6 501 955 (DURRANT RANDOLPH L ET AL) 31 December 2002 (2002-12-31)

2 Re Item V: Lack of novelty (Article 33(2) PCT)

The subject-matter of **claims 1-12, 14, 17-23, 25, 28-36, 38 and 39** is not novel in the sense of Article 33(2) PCT for the following reasons (the clarity problems of **claims 1 and 5-8**, see paragraph 4, are assumed to be dispelled in the following):

2.1 Document D1 discloses all features of **independent claim 1** as follows:

- A method of **determining a receiver position** in a communication system (D1: col. 9, l. 40-45), the method comprising:
- processing a received signal transmission to implement a **discriminant** to the signal with a repeater (D1: col. 4, l. 61 - col. 5, l. 14; col. 6, l. 9-20; Fig. 2: 30, 45);
- **transmitting** the processed signal (D1: col. 6, l. 15; Fig. 2: 22);
- **receiving** the processed signal (D1: col. 6, l. 16-17; Fig. 2: 23, 22);
- **detecting a discriminant** of the processed signal (D1: col. 9, l. 56-58; col. 10, l. 10-12; Fig. 4: 145);
- **associating a signal source** with the discriminant (D1: col. 10, l. 10-12);
- **determining position information** based upon the discriminant and base station identification (D1: col. 10, l. 13-19).

2.2 Document D1 also discloses the additional features of **dependent claims 2-12, 14 and 17-20**:

- **claims 2-4**: implementing a discriminant to the signal with a repeater in a **forward link, reverse link or both** (D1: col. 7, l. 66 - col. 8, l. 3);
- **claims 5-6**: detecting the discriminant of the processed signal with processing

means communicatively **coupled to a base station or a mobile station** (D1: col. 3, l. 30-33);

- **claims 7-8**: associating a signal source with the discriminant with processing means communicatively **coupled to a base station or a mobile station** (D1: col. 3, l. 30-33);
- **claim 9**: accessing a **position location database** of repeater discriminants, base station identifications, and associated position information (D1: col. 10, l. 14-18; Fig. 5: 155);
- **claims 10-11**: accessing a position location database stored on computer readable media communicatively **coupled to a position determination module or to a communication system control center** (D1: col. 10, l. 14-18; Fig. 5: 155);
- **claim 12**: determining **regional** (base stations) and **sub-regional** (repeaters) position information (D1: col. 10, l. 14-18);
- **claim 14**: the discriminant comprises a **code** (D1: col. 10, l. 65);
- **claim 17**: the discriminant comprises a **modulation** applied to the signal transmission (D1: col. 3, l. 20-22; col. 4, l. 66 - col. 5, l. 10);
- **claims 18-20**: the modulation comprises **frequency** modulation, **delay** modulation or **amplitude** modulation (D1: col. 3, l. 20-22; col. 4, l. 66 - col. 5, l. 10).

2.3 **Independent claim 21** corresponds to the **claim 9**; its subject-matter is accordingly disclosed in document D1 (col. 10, l. 14-18).

2.4 **Dependent claims 22, 23, 25 and 28-32** correspond to **claims 11, 10, 14, 17-20 and 12** (in this order). The above reasoning applies equally (see paragraph 2.2).

2.5 **Independent claims 33** (apparatus) **and 34** (computer readable medium) correspond to **claim 1** (method). The above reasoning applies equally (see paragraph 2.1).

2.6 **Independent claim 35** (computer readable medium) corresponds to **claim 9** (method). The above reasoning applies equally (see paragraph 2.2).

2.7 The additional feature of **dependent claim 36** is disclosed in document D1 (col. 3, l. 20-22; col. 4, l. 66 - col. 5, l. 10).

- 2.8 The additional feature of **dependent claim 38** is disclosed in document D1 (col. 10, l. 14-18).
- 2.9 **Independent claim 39** corresponds to **claims 33-35**. The above reasoning applies equally (see paragraphs 2.5 and 2.6).

3 Re Item V: Lack of inventive step (Article 33(3) PCT)

The subject-matter of **dependent claims 13, 15, 16, 24, 26, 27 and 37** is not inventive in the sense of Article 33(3) PCT for the following reasons:

- 3.1 **Dependent claims 13, 24 and 37** list commonly known features of base station identifiers in communication systems.
- 3.2 **Dependent claims 15, 16, 26 and 27** list commonly known features of repeater discriminants.

4 Re Item VIII: Clarity

Claims 1 and 5-8 do not comply with the provisions of Article 6 PCT as to clarity for the following reasons:

- 4.1 **Claim 1**: It is unclear if the terms "detecting a discriminant" (claim 1, l. 7), "associating a discriminant" (claim 1, l. 8) and "based upon a discriminant" (claim 1, l. 9) refer to the same discriminant as the term "to implement a discriminant" (claim 1, l. 3) or not.

*Remark: For examination of the claims with respect to novelty and inventive step these terms have been interpreted as "detecting **the** discriminant", "associating **the** discriminant" and "based upon **the** discriminant", see description ([0011]).*

- 4.2 The above objection also applies to the corresponding terms in **claims 5-8**.

5 Re Item VII: Certain defects in form or content

- 5.1 The application does not comply with the requirements of Article 6 and Rule 6.1 (a) PCT, because there are too many independent claims, some of them in the same category. In particular, it does not seem appropriate to maintain two independent claims in the category "method" (**Claims 1 and 21**), because they do not relate to the exceptional circumstances set out in PCT/GL/ISPE/1 5.14.
- 5.2 The present application does not comply with the requirement of Rule 5.1 (a)(ii) PCT, because the description does not indicate Document D1 as the most relevant background art.
- 5.3 The present application does not comply with the requirement of Rule 6.2 (b) PCT, because the technical features mentioned in the claims are not followed by reference signs relating to such features.
- 5.4 The present application does not comply with the requirement of Rule 6.3 (b) PCT, because the claims are not in the two-part form.
- 5.5 The present application does not comply with the requirement of Rule 9.1(iv) PCT because paragraphs [00106]-[00108] of the description contain obviously irrelevant or unnecessary matter.